

An Attempt to Interpret the Stages of Creation of the Heavens and the Earth in Six Days

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By the grace of Allah, I have conducted a detailed and meticulous study on the origin, continuity, and stability of the universe, a study that spanned many long years—exceeding five years. I delved into the depths of scientific research, which itself is the culmination of nearly a century of rigorous and highly professional studies. As a result, I have, by the grace and favor of Allah, achieved a comprehensive and accurate understanding that allows me to present a precise (though undoubtedly speculative and not definitive) vision, but one that is serious and highly professional, to interpret the stages of the creation of the heavens and the earth in six days, as mentioned in seven verses of the Holy Qur'an, and to reconcile this with the account of creation and management mentioned as eight days in Quran Surah Fussilat.

The Formation of the Solar System and the Evolution of Life-Essential Elements

1. The Big Bang and the Formation of Primary Elements:

The Earth is part of the solar system, located in the Milky Way galaxy, between two of its spiral arms, in a region about two-thirds of the way from the galaxy's center to its edge—a quiet, rural area perfectly suited for life!

Long before the solar system came into existence, the universe was born through the Big Bang, about 13.82 billion years ago. In the first few seconds after this explosion, the lightest and most fundamental elements, such as hydrogen, helium, and a little lithium, began to form. These primary elements laid the foundational blocks of the universe in its earliest stages.

2. The Gaseous Era—The Age of Smoke, The "Dark Age" of the Universe:

Approximately 379,000 years after the Big Bang, the universe entered a mysterious phase known as the "Dark Age" or the "Age of Smoke," as referred to in the Qur'an. During this epoch, the temperature had decreased enough to allow electrons and protons to combine and form neutral hydrogen atoms in a process known as "recombination." The universe during this period was filled with neutral hydrogen gas, devoid of stars and galaxies, appearing as a vast ocean of darkness and mysterious calm.

Despite this darkness, this period was crucial in the universe's history, as it provided the ideal conditions for the beginning of the formation of the major structures that would later define the universe, such as stars and galaxies. After about 150 million to 1 billion years, the first stars began to form, illuminating the universe for the first time, leading to the reionization of the neutral gas and the end of this dark epoch. Thus, the universe emerged from its dark age and embarked on a long journey towards formation.

3. Massive Stars and Supernovae:

Stars come in various types and sizes, and I will simplify them into three categories:

- **First: Small and Medium Stars (like the Sun):**

- These stars, with masses less than eight times that of the Sun, primarily produce light elements such as hydrogen and helium, as well as some heavier elements like carbon and nitrogen, through nuclear fusion reactions in their cores.

- At the end of their lives, these stars transform into white dwarfs, shedding their outer layers in the form of a planetary nebula.
- **Second: Massive Stars:**
 - Stars with masses greater than eight times that of the Sun reach extremely high core temperatures. During these stages, light element atoms fuse to form heavier elements, starting with carbon and oxygen, and eventually producing iron in the final stages of these stars' lives. This allows them to synthesize heavier elements like oxygen, neon, magnesium, and silicon during their lifetimes.
 - When these stars exhaust their nuclear fuel, fusion ceases, and the core can no longer support its weight, leading to a catastrophic collapse, resulting in supernova explosions.
 - These explosions produce immense amounts of energy and pressure, leading to the synthesis of elements heavier than iron, such as gold, uranium, and platinum, through rapid neutron capture (the r-process).
 - The new elements and materials resulting from the star's explosion are ejected into the interstellar space at incredible speeds, spreading and forming clouds of gas and particles. From these gas clouds, enriched with elements, new generations of stars and planets form, rich in heavy elements.
- **Third: Very Massive Stars (more than 20 times the Sun's mass):**
 - These stars are capable of synthesizing the heaviest elements during the advanced stages of their lives, such as iron. When they explode as supernovae, they produce even heavier elements like gold and uranium, which are then scattered across interstellar space.

Returning to the Sequence of Creation:

With the end of the gaseous era, the first stars began to form—massive stars, with masses more than eight times that of the Sun. These stars acted as cosmic factories, producing the heavy elements necessary for life, including iron and carbon. These massive stars, at the end of their lives, undergo accelerated stages, leading to their explosion in supernovae. These explosions spread heavy elements into space, enriching the interstellar medium, paving the way for the formation of new generations of stars and planets.

4. Your True Age is 13.82 Billion Years—Here's Your Life Story from That Moment to Today!

It must be clearly understood that the matter of the universe, from which all planets, stars, galaxies, and even humans were formed, was created in the moment the universe was born, at the heart of the Big Bang. So, if you wish to know the age of the matter from which you were formed, it is 13.82 billion years.

In the beginning, the temperature of the universe was unimaginable, surpassing billions of degrees. In the first moments after the Big Bang, there was no place for rest or stability; subatomic particles and electrons were moving at insane speeds, unable to combine due to the immense heat, which exceeded

trillions of degrees. Electrons and protons could not come close to each other, as they would collide and move apart rapidly.

Matter was constantly converting into energy and energy into matter billions of times due to the immense speed and heat, from the first second after the Big Bang. But as time passed, after the first 379,000 years of the universe's existence, the temperature began to drop to around 3000 Kelvin, allowing the first atoms, like hydrogen and helium, to form, marking the universe's first steps towards relative calm.

These atoms gathered to form the first stars approximately 150 million years later, but your life story—the thrilling part—doesn't end there. In the heart of those stars, temperatures rose again, reaching millions of degrees, initiating nuclear fusion processes. Here, in the fiery furnaces of stars, heavier elements like carbon and oxygen, and even iron, were born. The iron that constitutes part of human blood, for example, formed in the heart of stars at temperatures reaching up to 3 billion Kelvin. Yes, particles that now make up your body were once inside a massive furnace in the core of a star, more than eight times the mass of our Sun, somewhere in this vast universe.

Not just iron, but the human body is mainly composed of the following elements: Oxygen (O), Carbon (C), Hydrogen (H), Nitrogen (N), Calcium (Ca), Phosphorus (P), Potassium (K), Sulfur (S), Sodium (Na), Chlorine (Cl), Magnesium (Mg), Iron (Fe), and Zinc (Zn). It also contains small amounts of other elements like Copper, Manganese, Iodine, Selenium, and Chromium. The nuclei of stars underwent numerous nuclear fusion reactions at extremely high temperatures to produce the elements necessary to form you!

But what about those massive stars? When they exhausted their nuclear fuel, they collapsed under their own gravity, leading to a spectacular supernova explosion. In this colossal explosion, temperatures again exceeded billions of Kelvin, producing even heavier elements like gold and uranium, which were then scattered throughout the universe.

The stars that created the matter from which you are formed ejected these elements into interstellar space. Over billions of years, these materials gathered to form the Earth, where life gradually emerged from the elements created in the hearts of stars, leading to the creation of living beings on Earth. By Allah's will, life on Earth began around 3.8 billion years ago. The human being, composed of Carbon, Oxygen, and Iron, is a direct result of these cosmic processes.

Therefore, when you look at your body, remember that your atoms were born and formed in the heart of a blazing star billions of years ago, through nuclear fusion reactions. You embody the long journey from immense heat, chaos, and the conversion of matter into energy and energy into matter, to cosmic explosions, to life and consciousness.

When considering the stages of creation—when the Earth or the heavens were created, for example—all the matter from which the heavens and the Earth were formed was created at the same moment in the heart of the Big Bang. However, it underwent a long journey to eventually form the matter that makes up the Earth or the human being. This is an important point in the study of the six days mentioned in the Qur'an. It is also crucial when we say that these six days represent a cosmic timeline from the Big Bang to the present day. You were created on the day Allah created the universe, but you were physically formed from that same matter in a time much closer to today, when the sperm fertilized the egg, and later, when the soul was breathed into that embryonic drop. Thus, it is creation after creation.

5. The Formation of the Solar System:

The solar system formed approximately 4.6 billion years ago, meaning about 9.2 billion years had passed since the Big Bang before the solar system came into existence.

Thus, the solar system in which we live is the product of processes that lasted billions of years before its formation. The solar system originated from a molecular cloud rich in heavy elements, formed from previous supernovae. This cloud collapsed under its own gravity, forming the Sun and planets of the solar system from the rich materials that existed in that cloud. Rocky planets like Earth benefited from the availability of these heavy elements to form a rocky core, an atmosphere, and oceans, allowing life to emerge when Allah willed it to be created on Earth.

It is crucial to note that a long period was necessary for the formation of massive stars capable of producing heavy elements from carbon to iron, all of which are essential for life. These elements were necessary for the formation of rocky and gaseous planets. The Earth, its core, crust, and soil, as well as food, all consist of these elements. The supernova explosions were necessary to saturate the outer regions of the Milky Way galaxy with these essential elements. These elements are not only necessary for the emergence of life but also for the formation of the human being and the provision of sustenance for living creatures on Earth. Remember this point well when you read the verse:

"And He placed therein [i.e., the Earth] firmly set mountains over its surface, and He blessed it and determined therein its [creatures'] sustenance in four days without distinction - for [the information of] those who ask." (Fussilat: 10)

The creation of the Earth in two days, while the sustenance was determined in four days, has a broader meaning than just the growth of plants and animals, or the animals that humans feed on or that feed on each other. The matter extends far beyond this to the contemplation of the formation of matter and elements that required gigantic cosmic furnaces to produce the elements from which animals and plants are formed. These stars lived for millions of years before exploding into interstellar space, forming giant clouds that were the seeds of planets, stars, and clusters, including our solar system! These processes took two days before the creation of the solar system, and two days since the creation of the Earth and the solar system to the present day!

6. The Golden Age of the Universe:

Thus, we conclude that the universe must have passed through sufficient time since its inception to become capable of producing the heavy metals necessary for life. Studies suggest that the period that passed since the universe's birth until life began on Earth can be called the "Golden Age," when conditions were particularly favorable for the emergence of life. By then, the universe had already produced sufficient levels of heavy elements through previous stars, and new stars were entering the "main sequence" phase, where they are stable and support the formation of planetary systems. If the universe were younger, there wouldn't have been enough elements to form rocky planets. And if the universe were much older—say, if it were 30 or 40 billion years old instead of the precisely calculated 13.82 billion years—stars would have started turning into white dwarfs, making the existence of life impossible.

7. Review of the Verses:

Allah Almighty says in the Holy Qur'an:

"Say, 'Do you indeed disbelieve in He who created the earth in two days and attribute to Him equals? That is the Lord of the worlds.' And He placed on the earth firmly set mountains over its surface, and He blessed it and determined therein its [creatures'] sustenance in four days without distinction - for [the information of] those who ask. Then He directed Himself to the heaven while it was smoke and said to it and to the earth, 'Come [into being], willingly or by compulsion.' They said, 'We have come willingly.' And He completed them as seven heavens within two days and inspired in each heaven its command. And He adorned the nearest heaven with lamps [i.e., stars, for beauty] and as protection. That is the determination of the Exalted in Might, the Knowing." (Fussilat: 9-12)

Other verses in seven different places in the Qur'an mention the creation of the heavens and the Earth in six days without detailing.

It must be noted that the days mentioned in these verses are not earthly days, which begin at sunrise and end at the sunrise of the next day, but rather time estimates whose duration varies in the Qur'an. For example, some verses mention that a day is like a thousand years of what you count, and other verses mention that a day is like fifty thousand years. We have no definitive way to know the exact duration referred to as "six days" related to the creation of the heavens and the Earth.

Dr. Maurice Bucaille, in his book "The Bible, the Qur'an, and Science," compares the mention of the beginning of creation in the Torah and the Qur'an and finds that the concept of days in the Qur'an differs from the concept of days in the Torah (see page 50 of his book). The Torah states that the Creator rested on the seventh day, the Sabbath, and describes the day with its evening and morning (see Genesis 1:3-5). This contrasts with the reality that a day is merely the result of the Earth's rotation around its axis. However, in different places, the Qur'an expresses days in a relative manner, stating that:

"He arranges [each] matter from the heaven to the earth; then it will ascend to Him in a Day, the extent of which is a thousand years of those which you count." (As-Sajdah: 5)

And regarding the Day of Judgment:

"The angels and the Spirit will ascend to Him during a Day the extent of which is fifty thousand years." (Al-Ma'arij: 4)

Therefore, the days are stages with varying time estimates, not always just a time unit to account for the total duration of day and night. What we count as days on Earth are not the same as the cosmic days. (See pages 181-183 of Bucaille's book.)

The expression "days" here refers to stages. These stages could overlap, with stages related to Earth intertwining with stages related to the heavens. The sequence of events is not necessarily chronological, meaning that the term "then" in "Then He directed Himself to the heaven" does not imply that the Earth was created before the heavens. This is for two reasons: first, the order is according to importance relevant to the context, not the chronological order of events; and second, because in other verses, the Earth is mentioned after the heavens when discussing creation.

Let's arrange the stages as mentioned in the verse:

We previously explained that there is a stage in creation that astronomers call the gaseous era—the "dark age" of the universe, which the Qur'an describes as "smoke" instead of gas. The term "gas" to

describe the state of matter is an Arabization of the word "gas," while the Arabs used the term "smoke." Allah Almighty says in the Qur'an:

"Say, 'Do you indeed disbelieve in He who created the earth in two days and attribute to Him equals? That is the Lord of the worlds.' And He placed on the earth firmly set mountains over its surface, and He blessed it and determined therein its [creatures'] sustenance in four days without distinction - for [the information of] those who ask. Then He directed Himself to the heaven while it was smoke and said to it and to the earth, 'Come [into being], willingly or by compulsion.' They said, 'We have come willingly.' And He completed them as seven heavens within two days and inspired in each heaven its command. And We adorned the nearest heaven with lamps [i.e., stars, for beauty] and as protection. That is the determination of the Exalted in Might, the Knowing." (Fussilat: 9-12)

The description of the smoke stage for the heaven "Then He directed Himself to the heaven while it was smoke" is followed by the star stage "And We adorned the nearest heaven with lamps [i.e., stars, for beauty] and as protection."

As previously explained, after about 150 million years of the gaseous era, stars began to form in the heavens. The necessity of gas for this formation lies in the fact that stars are formed from clouds of gas, as we mentioned earlier.

The question now arises about the use of the conjunction "then" in the phrase "Then He directed Himself to the heaven while it was smoke." This does not necessarily indicate a chronological order, meaning it does not imply that the Earth was created before the heavens. The conjunction "then" indicates the arrangement of meanings intended to be highlighted from the context, due to their importance to the context. (See the article on Islam Question and Answer: "It is not necessary that the conjunction 'then' always indicates a chronological order.")

From another perspective, the entire universe was created at the same moment and exploded in the Big Bang at the same moment. However, it took four days of creation after creation until the matter from which the solar system was formed took shape. The Earth emerged from this matter in the last two of the six days since the solar system's formation 4.6 billion years ago to the present day. We hypothesize that the six days represent a grand cosmic timeline that records significant events from the universe's inception via the Big Bang to the present. By dividing 13.82 billion years, we find that two days (i.e., one-third, which is 4.6 billion years, the age of the solar system) and 9.2 billion years, the age of the universe before the Earth's formation, represent four of the six days.

As for the verses that mention the creation of the heavens before the Earth, there are many in the Qur'an:

"Have those who disbelieved not considered that the heavens and the earth were a joined entity, and We separated them and made from water every living thing? Then will they not believe? And We placed within the earth firmly set mountains, lest it should shift with them, and We made therein [mountain] passes [as] roads that they might be guided. And We made the sky a protected ceiling, but they, from its signs, are turning away. And it is He who created the night and the day and the sun and the moon; all [heavenly bodies] in an orbit are swimming." (Al-Anbiya: 30-33)

"It is Allah who created the heavens and the earth and whatever is between them in six days; then He assumed authority over the Throne. The Most Merciful, so ask about Him one well informed." (Al-Furqan: 59)

"Praise be to Allah, who created the heavens and the earth and made the darkness and the light. Yet those who disbelieve equate [others] with their Lord." (Al-An'am: 1)

"Indeed, your Lord is Allah, who created the heavens and the earth in six days and then established Himself above the Throne ["He assumed authority over the Throne."]. He covers the night with the day, [another night] chasing it rapidly; and [He created] the sun, the moon, and the stars, subjected by His command. Unquestionably, His is the creation and the command; blessed is Allah, Lord of the worlds." (Al-A'raf: 54)

"Indeed, your Lord is Allah, who created the heavens and the earth in six days and then established Himself above the Throne ["He assumed authority over the Throne."]. He arranges [each] matter; there is no intercessor except after His permission. That is Allah, your Lord, so worship Him. Then will you not remember? To Him is your return all together. [It is] the promise of Allah [which is] truth. Indeed, He begins the [process of] creation and then repeats it that He may reward those who have believed and done righteous deeds, in justice. But those who disbelieved will have a drink of scalding water and a painful punishment for what they used to deny. It is He who made the sun a shining light and the moon a derived light and determined for it phases - that you may know the number of years and account [of time]. Allah has not created this except in truth. He details the signs for a people who know. Indeed, in the alternation of the night and the day and [in] what Allah has created in the heavens and the earth are signs for a people who fear Allah." (Yunus: 3-6)

Conclusion:

The Qur'an mentions in seven places that Allah created the heavens and the Earth in six days. These days are not like our earthly days but rather long periods that may span billions of years. In Surah Fussilat, it mentions the creation of the Earth in two days, the determination of its sustenance in four days, and then the creation of the heavens in another two days, making it seem as though the total is eight days. However, this number does not conflict with the known six days because these days may overlap in stages, meaning they are not consecutive days but rather integrated stages.

The creation story begins with the Big Bang, where the immense heat prevented the formation of nuclei and particles. Over time, the temperature began to decrease, allowing the first atoms, such as hydrogen and helium, to form. Then, over billions of years, stars began to form, becoming cosmic factories that produce heavy elements like iron.

These elements, formed in the cores of stars at temperatures reaching billions of Kelvins, later formed the Earth and life. The iron found in human blood, for example, could only have been created through those extraordinary processes that occurred in stars.

The mention of the six days and the eight days in the Qur'an is not a contradiction but rather an indication of the different and complex stages that the process of creation underwent. Everything in the universe follows a precise system that reflects the greatness and wisdom of the Creator. The human being, made from the elements of stars, is the direct result of these astonishing cosmic processes, which invite contemplation and reflection on the grandeur of creation and the greatness of the Creator.

Thus, a wise reflection on the interpretation of the six days, the determination of sustenance, and the creation of the human being, while emphasizing the importance of the Earth in all of this as the place where Allah created the rational human being whom He tasked with observing and contemplating to understand the greatness of the Creator and His omnipotence, involves thinking about these enormous cosmic furnaces that produced the elements necessary to form the Earth, humans, and sustenance. Contemplating this reveals the greatness of the Creator, exalted and glorified be He.

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Aug 29, 2024

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